REMARKS

By the foregoing amendment, claims 19-24 have been canceled without prejudice; claims 8, 9 and 11-16 have been amended; and new claims 25-28 have been added. No new matter has been added. Claims 1-7, 17 and 18 were canceled in a prior amendment so that claims 8-16 and 25-28 are presented.

Reconsideration is respectfully requested in view of the amendment and the following remarks, which refer to the claims as amended herein.

Claim Rejections -- 35 U.S.C. §102

Claims 8, 9-11 and 19-24 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,018,524 to Turner et al. ("Turner").

Claims 19-24 have been canceled, rendering their rejection moot. Applicant submits that claims 8 and 9-11 are not anticipated by Turner.

Turner describes two distinct approaches to improving longest prefix match performance. In one approach, prefixes are separated into tables according to prefix length (Turner, col. 4, line 41 – col. 5, line 32 ;referring to Figure 6) and in the other approach, prefixes are arranged as nodes in a trie, with each node (or table) having a single prefix (col. 5, line 35 et seq; referring to Figure 7). Turner makes clear that both approaches (prefix-length tables and binary trie) have worst-case search times that are "slow for real routers" (col. 6, lines 49-50), and proceeds to describe, in the remainder of the disclosure, a variation of the prefix-length-table approach of Figure 6 in which worst-case search time is reduced by avoiding stepwise search of the prefix-length tables, from the longest-prefix-length table to the shortest.

In view of the foregoing, applicant submits that, at the very least, Turner fails to disclose or suggest the following limitation of claim 8:

```
        forming a hierarchical tree structure having root,
        branch and leaf nodes that define (i) at least a
        minimum number (N/T) of sub-databases of the
        forwarding database and (ii) respective bit
        combinations associated with the sub-databases,
        wherein each prefix of the N prefixes is stored
        within one of the sub-databases having an
        associated bit combination that matches
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corresponding bits within the prefix, and wherein
each of the sub-databases has no more than a
predetermined number (T) of prefixes, and at least
one of the sub-databases includes a plurality of
the prefixes
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In the prefix-length approach described in reference to Turner Figure 6 (and the detailed description of Turner), prefixes are separated into tables according to *prefix length* and completely without regard to values of prefix bits. Accordingly, none of the prefixes is "stored within one of the sub-databases having an associated bit combination that matches corresponding bits within the prefix." In the binary trie approach described in reference to Turner Figure 7, prefixes are stored in *respective* nodes of a trie so that, applicant submits, even assuming arguendo that the trie nodes correspond to applicant's sub-databases, none of the trie nodes have more than one prefix (each node is reached by a unique binary pattern corresponding to the prefix stored at that node, if any) and thus that the approach of Figure 7 fails at least to meet the limitation "at least one of the sub-databases includes a plurality of prefixes." The approaches disclosed in reference to Figures 6 and 7 of Turner are mutually exclusive at least in terms of separating prefixes into tables (either the prefixes are organized individually at respective nodes of a trie, or grouped into separate tables according to prefix length), so that Turner understandably does not disclose or suggest that the approaches may be combined in that regard. Accordingly, because Turner fails to meet at least the above-recited limitation, applicant submits that Turner does not anticipate claim 8 nor dependent claims 9-11.

Claim Rejections -- 35 U.S.C. §103

Claims 12-16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Turner in view of U.S. Patent No. 6,735,600 to Andreev et al. ("Andreev").

Claims 12-16 depend from claim 8 and thus incorporate the following limitation:

```
forming a hierarchical tree structure having root,
branch and leaf nodes that define (i) at least a
minimum number (N/T) of sub-databases of the
forwarding database and (ii) respective bit
combinations associated with the sub-databases,
wherein each prefix of the N prefixes is stored
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within one of the sub-databases having an
associated bit combination that matches
corresponding bits within the prefix, and wherein
each of the sub-databases has no more than a
predetermined number (T) of prefixes, and at least
one of the sub-databases includes a plurality of
the prefixes
```

As discussed above, Turner does not disclose or suggest the above-recited limitation and applicant submits that Andreev also does not disclose the above-recited limitation. Accordingly, even if Turner and Andreev could be combined in the manner suggested in the Office Action, the combination would still lack at least the above-recited limitation and therefore would not have rendered claims 12-16 obvious.

New Claims

New claims 25-28 each include one or more limitations not disclosed or suggested by the art of record. For example, claims 25-28 each include the limitation:

```
form a hierarchical tree structure having root,
branch and leaf nodes that define (i) at least a
minimum number (N/T) of sub-databases of the
forwarding database and (ii) respective bit
combinations associated with the sub-databases,
wherein each prefix of the N prefixes is stored
within one of sub-databases having an associated
bit combination that matches corresponding bits
within the prefix, and wherein each of the sub-
databases has no more than a predetermined number
(T) of prefixes, and at least one of the sub-
databases includes a plurality of the prefixes
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Accordingly, applicant submits that new claims 25-28 are allowable over the art of record.

Conclusion

Applicant respectfully submits that all pending claims are in condition for allowance. If a telephone interview would be helpful in any way, the Examiner is invited to call the undersigned attorney.

Applicant hereby petitions for any necessary extension of time and authorizes deposit account 50-1914 to be charged for any fees due, including any fee required in connection with a petition for extension of time.

Respectfully submitted,

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